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EXAMINER

COLAIANNI, MICHAEL

| ART UNIT | PAPER NUMBER |
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1731

DATE MAILED: 03/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/941,182

Applicant(s)

He et al.

Examiner

Michael Colaianne

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Jan 31, 2003
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above, claim(s) 27-40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 7, 8 6) ☐ Other:

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Election/Restriction

1. Claims 27-40 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made without traverse in Paper No. 4.
2. Applicant's election without traverse of Group I, claims 1-26 in Paper No. 4 is acknowledged.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3-6, 12, 19, 25 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Goodwillie et al. 2824411 in view of Lelah et al. "Wettability of Soda-Lime Glass: The Effect of Cleaning Procedures", *Ceramic Bulletin*, pp. 1121-1124, Vol. 58, No. 11 (1979).

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Goodwillie teaches applying, during the glass manufacturing process, a polysaccharide (i.e. starch (dextrin)) in an aqueous solution to the surface of a glass sheet upon which the water in the solution is removed leaving behind a polysaccharide coated glass sheet, which is removed after installation of the glass (col. 2, lines 10-17, col. 3, lines 39-68, col. 4, lines 35-41, Fig. 1).

Goodwillie also teaches applying the coating to both sides of the glass sheet by spraying (col. 2, lines 30-35, Fig. 1). It also appears that Goodwillie inherently teaches that the contact angle of the glass is less than or equal to 8° because soda-lime-silica glass is manufactured (col. 1, lines 25-27) and this glass inherently has a contact angle of less than 8° according to Lelah et al. (page 1122, Table II, Samples 7 and 8). Moreover it noted that the contact angles measured by Lelah are measured at room temperature (page 1121, "Experimental" section of the article). Goodwillie's application of the coating is to heated glass at a temperature from 100-250°F (col. 3, line 40). Thus, the contact angles measured at this temperature will be slightly lower than reported by Lelah because it is known that contact angle decreases with increasing temperature. Thus, it appears that Goodwillie teaches glass having a contact angle of less than 8° .

However, in the alternative, it would have been prima facie obvious to use a glass having a contact angle of less than 8° because it is known that the higher the contact angle the less "wetttable" is the glass. Thus, achieve a uniform coating of a largely aqueous solution a very low contact angle will insure uniform coating of the glass and thus a better coated product. Also,

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Goodwillie et al.'s process may be used with any variety of glass, which would obviously include glasses having contact angles of less than 8°.

Thus, in the alternative it would have been prima facie obvious at the time the invention was made to use a glass having a contact angle of less than 8° with Goodwillie et al.'s method of coating glass using a carbohydrate coating for the reasons given in the body of the rejection.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459

(1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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7. Claims 2 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goodwillie et al. 2824411 alone or in view of Lelah et al. "Wettability of Soda-Lime Glass: The Effect of Cleaning Procedures", *Ceramic Bulletin*, pp. 1121-1124, Vol. 58, No. 11 (1979) in further view of Ohtake et al. 4878973.

Goodwillie et al. alone or in view of Lelah teach applicant claimed invention. See the 102(b)/103(a) rejection for Goodwillie and Lelah's teachings. However, neither Goodwillie nor Lelah teach the roughness of the glass being less than .36 nanometers or the coating thickness being between .1 and 20 microns.

However, Ohtake et al. teach that it is known to have a carbohydrate coating thickness of 2.8 to 4.5 microns on glass (col. 2, lines 33-35). Ohtake et al. also teach that the roughness is less than 10 microns (col. 2, lines 54-57).

It would have been prima facie obvious at the time the invention was made to combine Ohtake et al.'s teachings with Goodwillie alone or Goodwillie in view of Lelah because doing so would provide a glass product with excellent optical properties and thus increase the versatility of Goodwillie or Goodwillie in view of Lelah's method of producing glass by allowing more products, such as optical products, to be produced. Ohtake et al. teaches that their coated glass is to be used in a lithographic process (col. 1, lines 8-10).

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8. Claims 7-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goodwillie et al. 2824411 alone or in further view of Lelah et al. "Wettability of Soda-Lime Glass: The Effect of Cleaning Procedures", *Ceramic Bulletin*, pp. 1121-1124, Vol. 58, No. 11 (1979).

Goodwillie et al. alone or in view of Lelah teach applicant claimed invention. See the 102(b)/103(a) rejection for Goodwillie and Lelah's teachings. However, neither Goodwillie nor Lelah teach the glass is above 150°C when the solution is applied, or the glass is in a vertical position.

However, Goodwillie does teach that the glass "usually" has a temperature of 37° to 121°C when the coating is applied (col. 3, lines 39-41). Goodwillie language "usually" implies that the temperature may vary from the described temperature range. The Examiner submits that increasing Goodwillie's temperature by 30°C is obvious given Goodwillie's recognition that the temperature may vary. Also, the temperature of the glass after coating being around 100°C would be an obvious temperature given the high temperature of the annealing process and the optimization of cooling the coating.

Also, coating the glass in a vertical position is obvious given Goodwillie's teaching that the glass may be coated in a non-continuous fashion (col. 4, lines 41-53). Also, using a vertical position to coat the glass will prevent puddling of the coating solution on the glass and promote a more uniform coated surface.

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It would have been prima facie obvious at the time the invention was made to combine the various temperature and coating positions with Goodwillie alone or Goodwillie in view of Lelah for the reasons given in the body of the rejection.

9. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Goodwillie et al. 2824411 alone or in further view of Lelah et al. "Wettability of Soda-Lime Glass: The Effect of Cleaning Procedures", *Ceramic Bulletin*, pp. 1121-1124, Vol. 58, No. 11 (1979) in further view of Young et al. 4079025.

Goodwillie et al. alone or in view of Lelah teach applicant claimed invention. See the 102(b)/103(a) rejection for Goodwillie and Lelah's teachings. However, neither Goodwillie nor Lelah teach heating the coating before being applied to the surface.

However, Young et al. teaches that it is known to heat starch composition prior to coating with the solution (col. 21-22, Example 2). In fact it is known to heat natural starches and polysaccharides to help dissolve the polysaccharides.

It would have been prima facie obvious at the time the invention was made to combine Young et al.'s heating of a coating composition with Goodwillie alone or Goodwillie in view of Lelah for the reasons given in the body of the rejection.

10. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Goodwillie et al. 2824411 alone or in further view of Lelah et al. "Wettability of Soda-Lime Glass: The Effect of Cleaning Procedures", *Ceramic Bulletin*, pp. 1121-1124, Vol. 58, No. 11 (1979).

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Goodwillie et al. alone or in view of Lelah teach applicant claimed invention. See the 102(b)/103(a) rejection for Goodwillie and Lelah's teachings. However, neither Goodwillie nor Lelah teach the grinding or polishing at least one edge of the cut glass.

However, Goodwillie teaches that it is known to cut the glass and prepare it for installation in its desired location (col. 4, lines 30-53). Goodwillie also teaches that it is known to grind and polish glass pieces (col. 4, lines 48-50). Thus, it would have been obvious to grind the cut edge of the glass because there are typically chips or other incongruities along the cut edge. Also, because the surface of the glass is coated and is untreated after coating the contact angle must remain the same.

It would have been prima facie obvious at the time the invention was made to a grinding and polishing step of a glass edge with Goodwillie alone or Goodwillie in view of Lelah for the reasons given in the body of the rejection.

11. Claims 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goodwillie et al. 2824411 alone or in further view of Lelah et al. "Wettability of Soda-Lime Glass: The Effect of Cleaning Procedures", *Ceramic Bulletin*, pp. 1121-1124, Vol. 58, No. 11 (1979).

Goodwillie et al. alone or in view of Lelah teach applicant claimed invention. See the 102(b)/103(a) rejection for Goodwillie and Lelah's teachings. However, neither Goodwillie nor Lelah teach the polysaccharide composition is 0.1 to 30 wt% or the viscosity of the coating.

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However, Goodwillie does teach that the coating composition has 1 lb of dextrin in 1000 gallons of water (col. 3, lines 70-73). This is a dilute composition, however, Goodwillie teaches that various other ingredients may be added to the solution depending on the properties desired (col. 3, lines 73-75). Thus, the weight composition of the polysaccharide may be varied to achieve the desired coating. Thus, the claimed composition would have been obvious given Goodwillie's teachings. Also, the composition taught by Goodwillie is largely a water composition which would have a viscosity close to that of water at room temperature (~1 centipoise at STP). Thus, the viscosity is obvious in view of Goodwillie's teachings.

It would have been prima facie obvious at the time the invention was made to use the composition and viscosity of the coating solution with Goodwillie alone or Goodwillie in view of Lelah for the reasons given in the body of the rejection.

12. Claims 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goodwillie et al. 2824411 alone or in further view of Lelah et al. "Wettability of Soda-Lime Glass: The Effect of Cleaning Procedures", *Ceramic Bulletin*, pp. 1121-1124, Vol. 58, No. 11 (1979), in further view of Fahey 4397913.

Goodwillie et al. alone or in view of Lelah teach applicant claimed invention. See the 102(b)/103(a) rejection for Goodwillie and Lelah's teachings. However, neither Goodwillie nor Lelah teach using a biocide or plasticizer in the coating.

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However, Fahey teaches using a biocide and plasticizer in a starch based coating (abstract and col. 6, lines 56-60).

It would have been prima facie obvious at the time the invention was made to combine Fahey's biocide and plasticizer with Goodwillie alone or Goodwillie in view of Lelah's method of coating glass because doing so would provide a coating having enhanced properties. Also, using the plasticizer would ensure smoother coating and less clumping of the coating mixture.

13. Claims 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goodwillie et al. 2824411 alone or in further view of Lelah et al. "Wettability of Soda-Lime Glass: The Effect of Cleaning Procedures", *Ceramic Bulletin*, pp. 1121-1124, Vol. 58, No. 11 (1979).

Goodwillie et al. alone or in view of Lelah teach applicant claimed invention. See the 102(b)/103(a) rejection for Goodwillie and Lelah's teachings. However, neither Goodwillie nor Lelah teach using a detergent to remove the coating or a brush.

However, the Examiner take Official Notice that it is known in the clean art to use detergent (i.e. soap) to clean objects. Also, it is known to use brushes and other utensils to scrub objects being cleaned (ie. Cleaning dishes after a meal.).

It would have been prima facie obvious at the time the invention was made to combine using a detergent and brush to clean the coated glass with Goodwillie alone or Goodwillie in

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view of Lelah's method of coating glass because doing so is exceedingly well known in the art and using detergent would provide for easier and more thorough cleaning.

14. Claims 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goodwillie et al. 2824411 alone or in further view of Lelah et al. "Wettability of Soda-Lime Glass: The Effect of Cleaning Procedures", *Ceramic Bulletin*, pp. 1121-1124, Vol. 58, No. 11 (1979).

Goodwillie et al. alone or in view of Lelah teach applicant claimed invention. See the 102(b)/103(a) rejection for Goodwillie and Lelah's teachings. However, neither Goodwillie nor Lelah teach the number of glass chips adhering to the glass is reduced by at least 95%.

However, Goodwillie does teach that the coating is meant to protect the glass from staining and scratching (col. 1, lines 18-20). Given this teaching it would have been obvious that the number of glass chips adhering would be reduced. Also, the coating used by Goodwillie is of the same composition used by applicant and so the properties of the coating must be same. Thus, the anti-adherence property must be taught by Goodwillie.

It would have been prima facie obvious at the time the invention was made to combine prevent adherence of glass chips to the coating with Goodwillie alone or Goodwillie in view of Lelah's method of coating glass for reasons given in the body of the rejection.

15. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Goodwillie et al. 2824411 alone or in further view of Lelah et al. "Wettability of Soda-Lime Glass: The Effect

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of Cleaning Procedures”, *Ceramic Bulletin*, pp. 1121-1124, Vol. 58, No. 11 (1979) in further view of Mizosaki et al. 5998766.

Goodwillie et al. alone or in view of Lelah teach applicant claimed invention. See the 102(b)/103(a) rejection for Goodwillie and Lelah’s teachings. However, neither Goodwillie nor Lelah teach using the glass in a LCD device.

However, Goodwillie teaches that the glass may be installed in any of a number of operations (col. 4, lines 33-39). The “other glazed openings” may be construed to include an LCD device. Also, Mizosaki teaches that it is known to use very clean glass substrate in LCD device (col. 1, lines 10-15, col. 3, lines 44-48). Thus, using a coated glass sheet which has a very clean surface in an LCD device would have been obvious.

It would have been prima facie obvious at the time the invention was made to combine Mizosaki et al.’s teachings with Goodwillie alone or Goodwillie in view of Lelah’s method of coating glass for reasons given in the body of the rejection.

Conclusion

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Colaianni whose telephone number is 703-305-5493. The examiner can normally be reached on Monday to Friday from 8:00 AM to 4:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin, can be reached on (703) 308-1164. The fax phone number for the organization where this application or proceeding is assigned is 703-305-7115.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.

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March 17, 2003

A handwritten signature in black ink, appearing to read "Michael Colaianni", with a horizontal line extending from the end of the signature.

MICHAEL COLAIANNI
PRIMARY EXAMINER